

## ABSTRACT

The present invention provides membrane cassettes and stacks thereof which are suitable for a use in a variety of electrochemical applications. The invention further provides membrane cassettes which comprise one or more external manifolds  
5 which deliver reagents and/or coolant to one or more reactant or coolant flow fields of the membrane cassettes. In certain preferred embodiments, the invention provides cassettes and stacks which are suitable for use in fuel cell applications.